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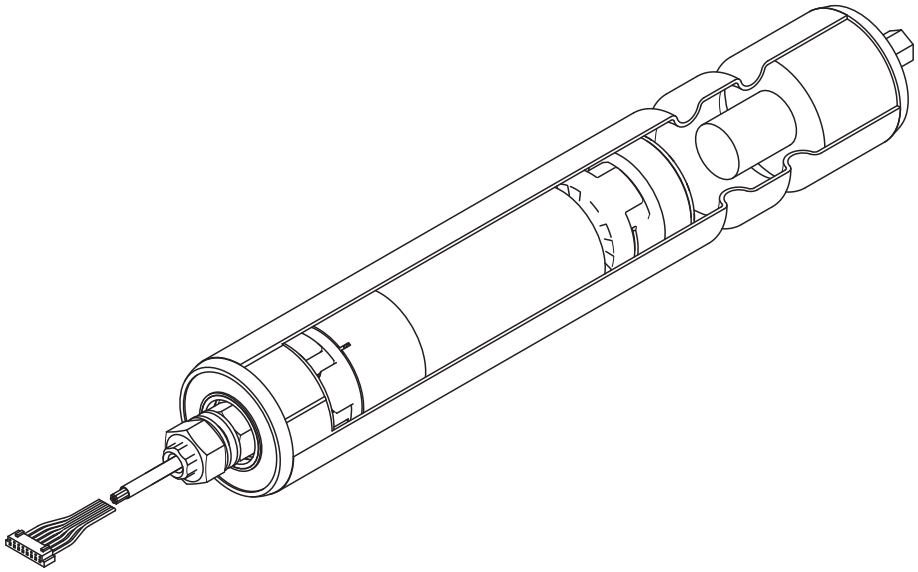

User manual

Interroll RollerDrive

EC100

EC110

Version 3.0 (04/2013) en
Translation of the original instructions

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Version 3.0 (04/2013) en
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Introduction

Information about the operating instructions

In this manual the RollerDrives EC100 and EC110 are referred to as RollerDrive EC1xx.

Contents

This manual contains important advice, notes and information about the RollerDrive EC1xx in all phases of its lifecycle:

- Transport, assembly and start-up
- Safe operation, maintenance and troubleshooting, disposal
- Accessories

Validity of the manual

The manual describes the RollerDrive EC1xx as it is delivered by Interroll.

In addition to this manual, special contractual agreements and technical documents apply to special versions.

The manual is part of the product

- ➢ For trouble-free, safe operation and warranty claims, read the manual and follow the instructions before handling the RollerDrive EC1xx.
- ➢ Keep the manual near to the RollerDrive EC1xx.
- ➢ Pass the manual on to any subsequent operator or occupant of the RollerDrive EC1xx.
- ➢ Interroll does not accept any liability for malfunctions or defects due to non-observance of this manual.
- ➢ If you have any questions after reading the operation manual, feel free to contact our customer service. See the last page for your local contact.

Warnings in this manual

The warnings in this document refer to risks which may arise while using the RollerDrive EC1xx. For relevant warnings, *see "Safety", page 4* and the warnings at the beginning of each chapter.

There are three categories of danger. The following signal words are used in the document as required:

- Danger
- Warning
- Caution

Signal word	Meaning
Danger	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
Warning	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
Caution	Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

Structure of warnings

⚠ DANGER

Nature and source of the hazard
Possible consequence of non-observance

➢ Information about how to avoid the hazard.

Further symbols

NOTICE

This symbol identifies possible material damage.
➢ Information about how to avoid damage.

This symbol displays safety instructions.

This symbol marks useful and important information.

➢ This symbol marks the steps that have to be carried out.

Safety

General safety instructions

The RollerDrive EC1xx is designed according to the technical state of the art and is reliable in operation, once distributed. However, risks may still arise.

- Risks of physical injury to the user or bystanders.
- Adverse effects of the RollerDrive and other material.

⚠ Disregarding the warnings in this manual may lead to serious injury.

- ➢ Always read the entire operating and safety instructions before starting to work with the RollerDrive and follow the information contained herein in full.
- ➢ Only instructed and qualified persons may work with the RollerDrive.
- ➢ Always keep this user manual at hand when working on the RollerDrive so that you can consult it quickly if required.
- ➢ Always comply with relevant national safety regulations.
- ➢ If you have any questions after reading this user manual, feel free to contact our customer service. See the last page for contact information.

Intended use

The RollerDrive EC1xx may only be used for industrial applications and in an industrial environment to convey goods such as parts, cartons, totes or boxes. It must be integrated in a conveyor module or a conveying system. Any other use is not permitted.

Any changes that affect the safety of the product are not allowed.

The RollerDrive EC1xx may only be used within the given operation limits.

Unintended use

The RollerDrive EC1xx may not be used to transport persons, bulk cargo or small parts.

The RollerDrive is not intended for use under impact or shock loads.

Applications not according to the intended use of the RollerDrive EC1xx require approval from Interroll.

Qualified persons

Qualified persons are persons who read and understand the manual and, taking national regulations into account, can competently execute incidental work.

Only instructed and qualified persons may work with the RollerDrive, taking the following into account:

- the relevant manuals and diagrams,
- the warning and safety instructions in this manual,
- the system specific regulations and requirements,
- national or local regulations and requirements for safety and accident prevention.

Dangers

The following list informs you about the various types of danger or damage that may occur while working with the RollerDrive EC1xx.

Persons

- ➢ Maintenance or repair work must only be executed by authorized and qualified persons in accordance with the applicable regulations.
- ➢ Before turning on the RollerDrive, ensure that no unauthorized persons are near the conveyor.

Electricity

- ➢ Only perform installation and maintenance work after you have switched off the power. Ensure that the RollerDrive cannot be turned on accidentally.

Rotating parts

- ➢ Keep your fingers and hair away from moving parts.
- ➢ If you have long hair, always wear a hair net.
- ➢ Never wear loose clothing.
- ➢ Never wear jewellery, such as necklaces or bracelets.
- ➢ Wear safety shoes.

Working environment

- ➢ Do not use the RollerDrive in explosive atmospheres.
- ➢ Always remove materials and objects which are not required from the work area.
- ➢ Wear safety shoes.
- ➢ Regulate and monitor careful placement of the goods on the conveyor.

Malfunctioning during operation

- ➢ Regularly check the RollerDrive for visible damage.
- ➢ In case of fumes, unusual noise or blocked or damaged goods, stop the RollerDrive at once and ensure that the RollerDrive cannot be started accidentally.
- ➢ Contact qualified personnel immediately to find the source the malfunction.
- ➢ Do not step on the RollerDrive during operation.

Maintenance

- ➢ As the product is maintenance free, you only need to check regularly for visible damages, unusual noise and that the screws and nuts are still tightened.
- ➢ Do not open the RollerDrive.

Accidental start-up

- ➢ Make sure that the RollerDrive cannot start up accidentally, particularly during assembly, maintenance work and in the event of a fault.

Interfaces

By assembling the RollerDrive in a conveyor module, potential hazards may occur. These are not described in this manual and have to be analyzed during the design, installation, and startup of the conveyor module.

- After assembling the RollerDrive in a conveyor module, check the whole system for any new potential dangerous condition prior to turning on the conveyor.

Operating modes

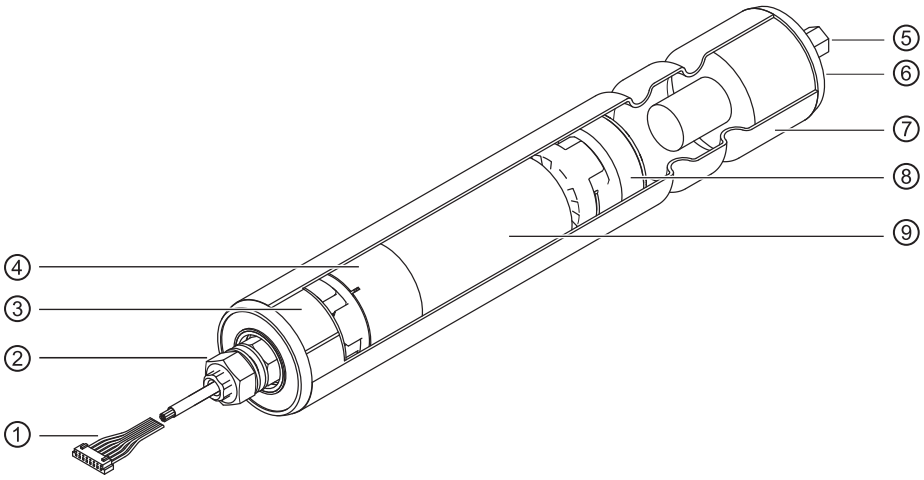
Normal mode Operation of the installed device at the end customer's as a component in a conveyor in a complete system.

Special mode All operating modes which are required to guarantee and maintain safe and normal operation.

Special operating mode	Explanation	Comment
Transport/Storage	Loading and unloading, transport and storage	-
Assembly/Initial start-up	Installation at the end customer's and performing the test run	When de-energized
Cleaning	External cleaning	When de-energized
Maintenance/Repairs	Maintenance and inspection tasks	When de-energized
Troubleshooting	Troubleshooting in the event of a fault	When de-energized
Fault elimination	Eliminating the fault	When de-energized
Shut-down	Dismantling from the conveyor	When de-energized
Disposal	Disposal of RollerDrive and packaging	-

Product information

Components



① Motor plug with cable
② Motor cartridge shaft
③ Fixed bearing housing assembly
④ Motor
⑤ Idler cartridge shaft
⑥ Idler bearing housing assembly
⑦ Tube
⑧ Non-slip drive
⑨ Gearbox

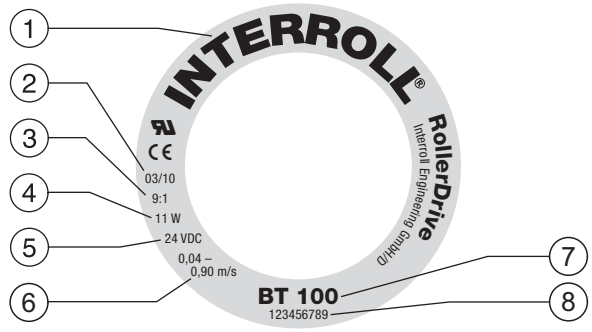
Product Description

The RollerDrive EC1xx is sealed in accordance with Protection Class IP54.

A corresponding DriveControl is required to operate the RollerDrive EC1xx (*see "DriveControls for the RollerDrive EC1xx", page 11*).

RollerDrive label

The specifications on the RollerDrive label are used to identify the RollerDrive. This is required to use the RollerDrive as intended.



Type plate

① Manufacturer
② Date of production
③ Gear ratio
④ Performance
⑤ Nominal voltage
⑥ Speed range
⑦ Type of RollerDrive
⑧ Serial number

Product identification

To identify a RollerDrive, the following information is required. You may enter the values of your RollerDrive in the last column.

Information	Possible value	Own value
RollerDrive label	Motor type Gear ratio Serial number	
Tube diameter	50 mm or 1.9 in	
Tube material	Zinc-plated, galvanized, aluminum or stainless steel (with or without sleeves)	
Roller length	EL/BF	
Roller transmission	Torque transmission	
Idler cartridge shaft	Spring loaded or floating (*see "Dimensions of bearing seats on the non-driven side", page 13*)	

Technical specifications

RollerDrive	EC100	EC110
Rated voltage	24 VDC	24 VDC
Voltage range	22 to 28 VDC	22 to 28 VDC
Idle current	0.6 A	0.6 A
Maximum continuous current	1.8 A	2.5 A
Maximum peak current	4.1 A	4.1 A
Mechanical power	18 W	31 W
System efficiency (drive)	42%	52%
Maximum ripple from power supply	5%	5%
Noise emission (mounted)	55 dB(A)	55 dB(A)
Protection classification	IP54	IP54
Ambient temperature in operation	0 °C to 40 °C (32 °F to 104 °F)	
Ambient temperature during transport and storage	-20 °C to 75 °C (-4 °F to 167 °F)	
Temperature changes	max. 1 °K/min; 3 h; two cycles in acc. with IEC 68-2-14	
Air humidity	max. 90% not condensing	
Installation height above sea level	max. 1000 m (max. 3300 ft)	

Mechanical performance, performance data and performance charts are on basis of 20 °C (68 °F).

Performance data of the RollerDrive EC100 with DriveControl

Gear ratio	Rated torque (1.8 A)	Start-up torque with DriveControl DC-EC100 (4.1 A)	Start-up torque with DriveControl HC-EC100 (4.1 A) [1]	Maximum speed
12:1	0.37 Nm (3.3 in-lbf)	1.0 Nm (8.9 in-lbf)	1.4 Nm (12 in-lbf)	1.32 m/s (260 fpm)
16:1	0.48 Nm (4.2 in-lbf)	1.5 Nm (13.3 in-lbf)	1.8 Nm (16 in-lbf)	1.03 m/s (202 fpm)
24:1	0.75 Nm (6.6 in-lbf)	2.2 Nm (19.5 in-lbf)	2.8 Nm (25 in-lbf)	0.69 m/s (135 fpm)
36:1	1.17 Nm (10.4 in-lbf)	3.0 Nm (26.6 in-lbf)	3.8 Nm (34 in-lbf)	0.44 m/s (88 fpm)
48:1	1.24 Nm (11.0 in-lbf)	4.0 Nm (35.4 in-lbf)	5 Nm (44 in-lbf)	0.35 m/s (68 fpm)
64:1	1.82 Nm (16.1 in-lbf)	5.2 Nm (46.0 in-lbf)	6.1 Nm (54 in-lbf)	0.25 m/s (50 fpm)
96:1	3.00 Nm (26.6 in-lbf)	9.8 Nm (86.7 in-lbf)	11.3 Nm (100 in-lbf)	0.17 m/s (34 fpm)

[1] The HC-EC100 provides higher peak torque. Nominal torque is similar to the DC-EC100.

Maximum static load per roller not more than 40 kg (88 lb).

Performance data of RollerDrive EC110 with DriveControl HC-EC110

Gear ratio	Rated torque (2.5 A)	Start-up torque (4.1 A)	Maximum speed
4:1	0.34 Nm (3 in-lbf)	1.2 Nm (11 in-lbf)	2.41 m/s (475 fpm)
9:1	0.75 Nm (6.6 in-lbf)	2.6 Nm (23 in-lbf)	1.07 m/s (211 fpm)
12:1	1.0 Nm (8.8 in-lbf)	3.5 Nm (31 in-lbf)	0.8 m/s (158 fpm)
16:1	1.5 Nm (13 in-lbf)	4.2 Nm (37 in-lbf)	0.6 m/s (119 fpm)
24:1	2.2 Nm (19.5 in-lbf)	5.8 Nm (51 in-lbf)	0.4 m/s (79 fpm)
36:1	3.0 Nm (26.5 in-lbf)	9.2 Nm (81 in-lbf)	0.27 m/s (53 fpm)
48:1	3.4 Nm (30 in-lbf)	11.5 Nm (102 in-lbf)	0.2 m/s (40 fpm)
64:1	4.25 Nm (37.6 in-lbf)	13.2 Nm (117 in-lbf)	0.15 m/s (30 fpm)

[1] Maximum static load per Roller not more than 40 kg (88 lb). The information refers to continuous operation under maximum load (S1 operation).

DriveControls for the RollerDrive EC1xx

Interroll recommends using the RollerDrive EC1xx in combination with the corresponding Interroll DriveControl.

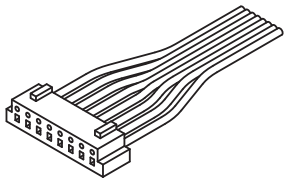
RollerDrive	Corresponding DriveControl	Description
EC100	DC-EC100	Motor control card without ZPA functionality
	HC-EC100	ZPA and motor control on one board, can be used separately
EC110	HC-EC110	ZPA and motor control on one board, can be used separately

For DriveControl details, see the corresponding operation manual, catalogs or publication at www.interroll.com.

Motor plug

The motor plug for RollerDrive EC1xx is manufactured by AMP, consisting of a plug (AMP-part # 175778-8) and terminal pins (AMP-part # 1-175102-1). In case of ripped out cables the plug can be repaired using a crimping tool available directly from AMP (part # 9184381).

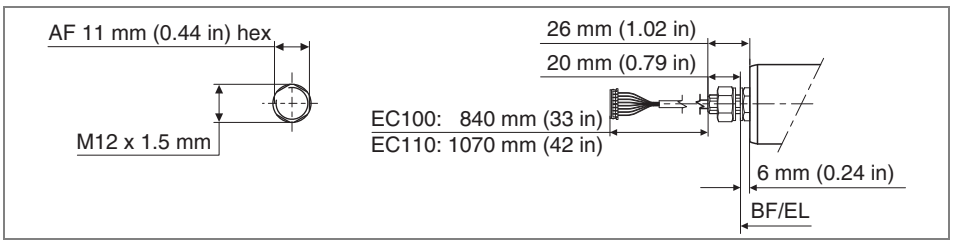
Motor lead wire color code



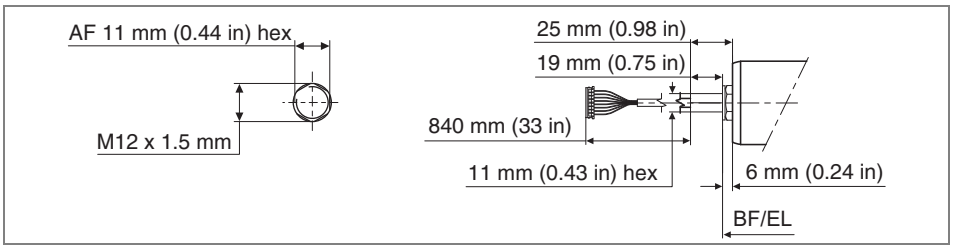
Color	Lead	Description
Black	Phase C	Motor leads with AWG 22 (0.32 mm^2)
White	Phase B	
Red	Phase A	
Yellow	S3 (C)	Hall effects sensor leads with • AWG 26 (0.13 mm^2) for EC100 • AWG 22 (0.32 mm^2) for EC110
Orange	S2 (B)	
Brown	S1 (A)	
Blue	4.5 to 20 VDC	
Green	Ground	

Dimensions of motor shaft

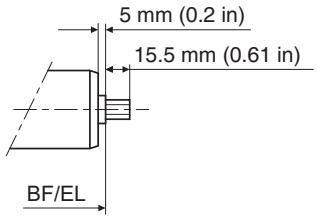
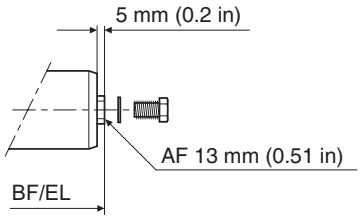
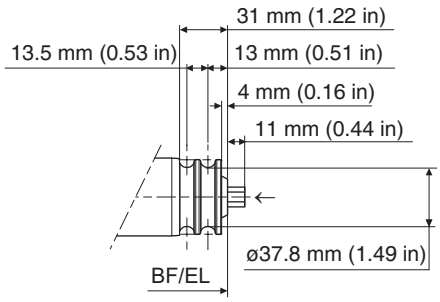
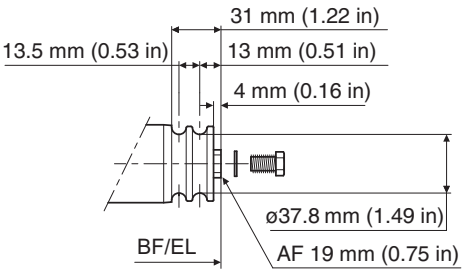
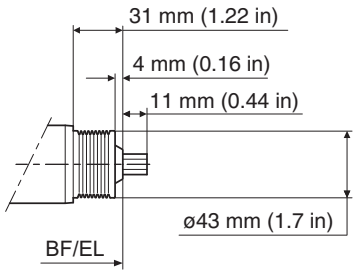
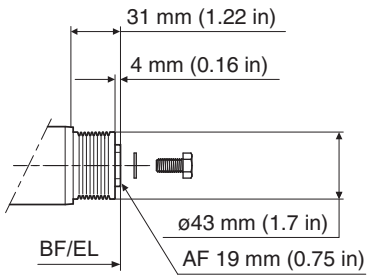
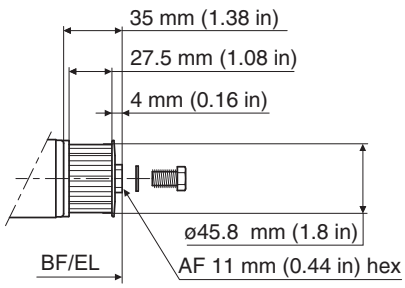
Standard configuration



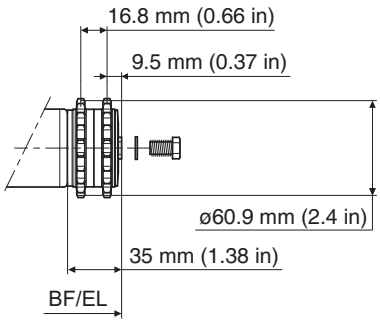
EC110 solid hex configuration



Dimensions of bearing seats on the non-driven side

	11 mm (0.44 in) hex, Spring-loaded shaft	Female threaded M8 (FTM8),
Straight		
Round belt head		
PolyVee head		
Toothed belt head	Poly-Chain GT; 8 mm pitch; 18 teeth	
		

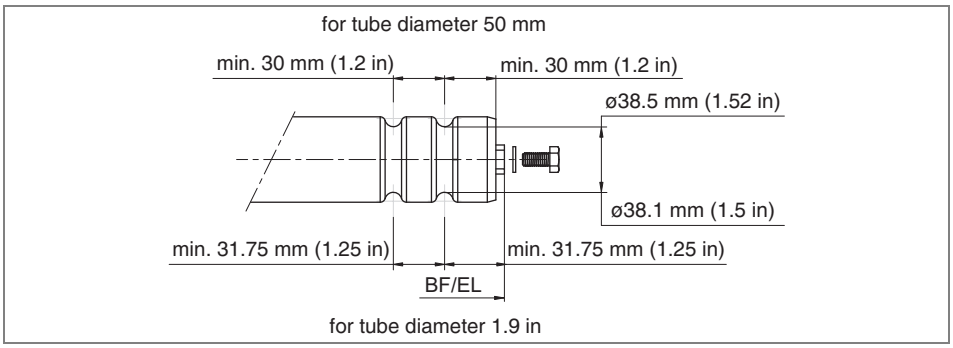
	11 mm (0.44 in) hex, Spring-loaded shaft	Female threaded M8 (FTM8),
Sprocket head		11 mm (0.44 in) hex shaft; 3/8 in pitch; 20 teeth



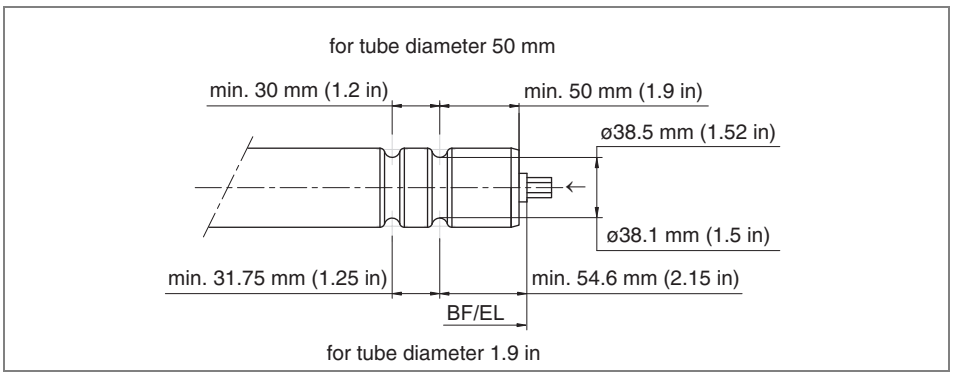
BF/EL = Between Frames / Installation Length

Round belt groove locations

Female thread IGM8, single bearing



Spring-loaded hex, double bearing



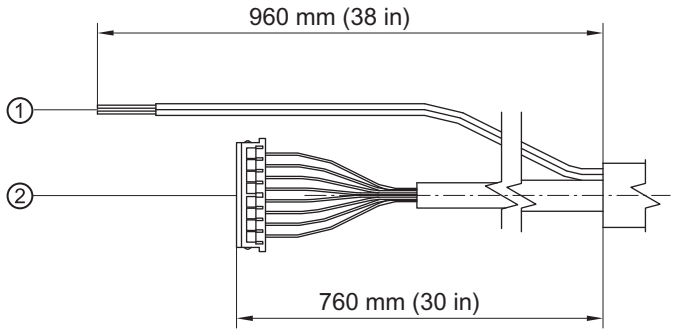
Other tube groove locations are possible.

Conical RollerDrives

For conical RollerDrives there must be an 1.8° angle compensation on the motor end to avoid bending forces on the RollerDrive.

Failsafe brake for RollerDrive EC100

Optionally, the RollerDrive EC100 is also available with a failsafe brake (then called EC100B), which is designed to hold the RollerDrive in position in case of a power shut down, mainly at declines. The brake shall be used as holding brake only and not as a dynamic brake (e.g. not for deceleration or positioning).



① Brake leads
② Motor plug

Recommended break leads connection:
- Green lead with red stripes: 24 VDC
- Green lead with blue stripes: GND

The fail save brake is not sensitive to electrical polarity, so it can be connected bi polar; for clearness it is recommended to connect them as stated above.

Technical data

Nominal voltage	24 VDC
Voltage range	0 to 28 VDC
Brake locking voltage	max. 6.0 VDC
Brake releasing voltage	min. 12.2 VDC
Current consumption	0.167 A
Internal resistance	144 Ω
Lead wires	AWG 22 Teflon

Gear ratio	Static holding torque
24:1	8.4 Nm (74.3 in-lbf)
36:1	12.6 Nm (111.5 in-lbf)
48:1	16.8 Nm (148.7 in-lbf)
64:1	22.4 Nm (198.2 in-lbf)
96:1	33.6 Nm (297.4 in-lbf)

The RollerDrive EC100 (12:1) and RollerDrive EC100 (16:1) are not available with failsafe brake.

Transport and storage

Transport

- Each RollerDrive is covered at its ends with end-protectors.

⚠ CAUTION

Risk of injury due to improper transport

- ➢ Transport may only be carried out by qualified and authorized persons.
- ➢ Observe the following notices.

- ➢ Do not stack pallets.
- ➢ Check the fixation of the RollerDrives before transport.
- ➢ Avoid hard shocks during transport.
- ➢ Check each RollerDrive visually for damage after transport.
- ➢ In case of damage, take photos of the damaged parts.
- ➢ To maintain the warranty, instantly report any damage caused during transport to the transport company and to Interroll.
- ➢ Do not transfer the RollerDrives between warm and cold environments as this may cause condensing water.

Storage

⚠ CAUTION

Risk of injury due to improper storage

- ➢ Do not stack pallets.
- ➢ Do not stack more than four carton boxes.

- ➢ Check each RollerDrive for damage after storage.

Assembly

Warning information for assembly

⚠ CAUTION

Rotating parts
Risk of pinched fingers

- Do not insert fingers between the RollerDrive and the round belt, PolyVee belt or roller chain.
- Install a protection device (such as a guard plate) to prevent fingers from getting trapped in the round belt, PolyVee belt or roller chain.
- Install an appropriate warning on the conveyor.

NOTICE

Risk of damage leading to failure or shortened life expectancy of the RollerDrive

- Follow the instructions below.

- Do not drop or mishandle the RollerDrive to avoid internal damage.
- Check each RollerDrive visually for damage before assembly.
- In order to prevent damage to the internal connections, do not hold, carry or secure the RollerDrive by the motor cable.
- Do not force the RollerDrive when inserting it into the conveyor frame. It should fit easily into the holes in the frame.
- Ensure that the proper tightening torque is applied to the RollerDrive hex nut to prevent the shaft spinning in the frame and the wires twisting (*see "Securing the RollerDrive in the conveyor frame", page 21*).
- Do not twist the motor cable.

Warning notices for the electrical installation

NOTICE

Risk of damage to the motor and/or the wires of the RollerDrive

➢ Observe the following notices.

- ➢ The electrical installation may only be executed by qualified and authorized persons.
- ➢ Disconnect the power before installing, removing or rewiring the RollerDrive.
- ➢ Do not apply AC current to the RollerDrive or DriveControl device at any time, as this will cause irreparable damage.
- ➢ Do not apply too much tension and pressure stress to the motor connector. Bending the cable and forcing the star washer over the cable can cause damage to the insulation of the cable, which could result in failure of the RollerDrive.
- ➢ Ensure that the RollerDrive, the DriveControl and the 24 VDC power source are properly earthed through the frame or supporting structure in which the RollerDrive and the DriveControl are installed. Incorrect earthing can result in the buildup of static charge, which can cause the motor or DriveControl to malfunction or fail prematurely.
- ➢ Do not bend the motor cable at the motor shaft. Leave a minimum of 12 mm (0.5 in) of excess cable for stress relief. (Maintain a bending radius of at least five times the cable diameter.)
- ➢ Do not rotate the RollerDrive manually, as this generates a voltage which could damage the DriveControl.

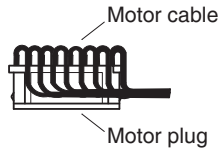
RollerDrive installation

Inserting the motor shaft

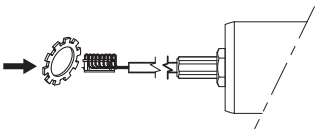
➢ Remove the shipping tube from the RollerDrive.

Use caution when cutting the tie-wrap from the harness. Do not cut any of the sleeving or cables on the unit.

To pass the motor plug through holes, fold the motor cable as follows.



➢ Place the first star washer on the motor shaft.



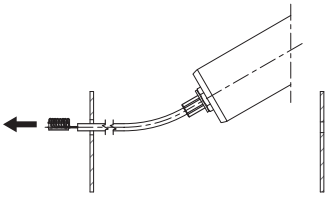
➢ Pass the motor cable through the 11 mm (0.44 in) hex hole in the conveyor frame and insert the motor shaft into the hex hole.

NOTICE

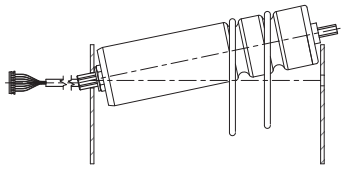
Internal damage of the RollerDrive due to improper handling

➢ Do not install the securing hardware at this time.

➢ Do not bend the motor cable at the motor shaft. Leave a minimum of 12 mm (0.5 in) of excess cable for stress relief.



➢ Fit one or two round belts, size 4 mm, max. 5 mm (3/16 in) or RollerDrive belts (if used) on the non-driven end of the RollerDrive.

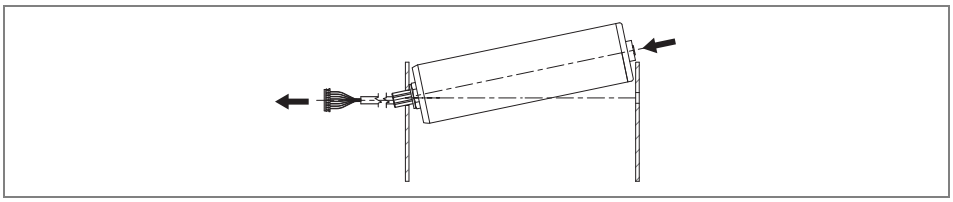


Inserting the idler shaft

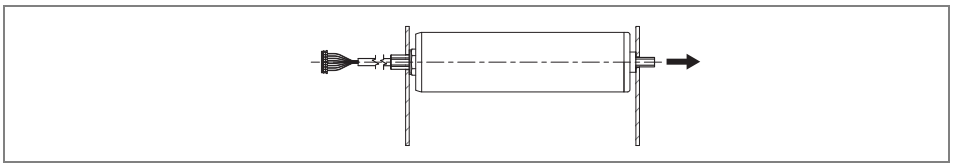
How the idler shaft is inserted in the conveyor frame depends on the idler shaft option. The easiest installation option is the spring-loaded shaft option.

Inserting the spring-loaded idler shaft

- Push the spring-loaded idler shaft inwards and align the shaft with the hole in the frame.

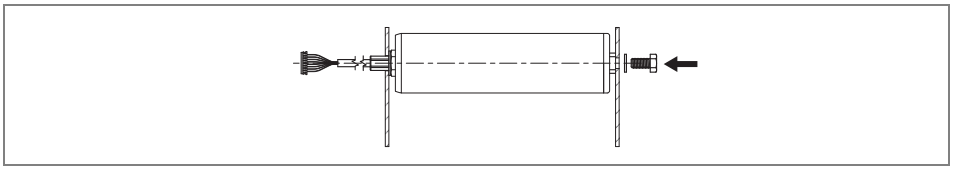


- Release the idler shaft and allow it to pop into the hole in the frame.



Inserting the FTM8 idler shaft

- Place a split lock washer onto a M8x20 bolt.
- Align the RollerDrive with the hole in the frame and thread the M8 bolt and split lock washer into the shaft. Use a wrench to prevent the shaft pin from turning (width across flats AF 13 mm or AF 19 mm, depending on the shaft pin type, *see "Round belt groove locations", page 14*).



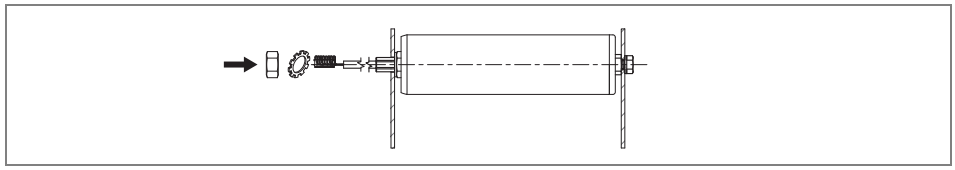
- Use a torque wrench to tighten the bolt with 20 Nm (177 in-lbf) until the split washer is completely compressed.

Securing the RollerDrive in the conveyor frame

There is a nut and a washer on the shaft next to the tube. This inner nut has been preassembled and secured in the correct position.

Do not adjust the inner nut and washer.

- Use a flat wrench AF 19 mm to prevent the inner nut from turning. Use a wrench site AF 36 mm in the case of the IP66 configuration.
- Slip a second washer and a hex nut over the motor cable and screw it onto the threaded motor shaft. Ensure that washers are fitted on both sides of the profile.

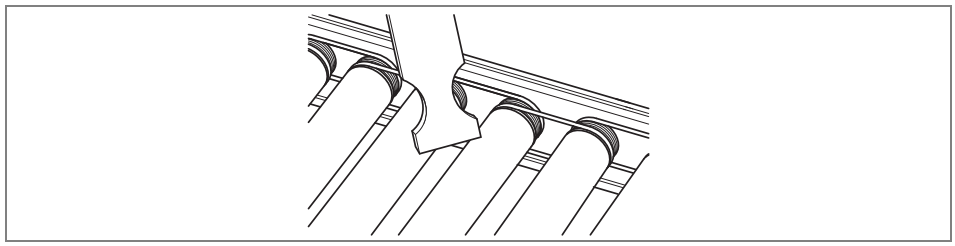


- Use a torque wrench to tighten this outer nut with 35 Nm (308 in-lbf) while ensuring that the inner nut is not rotating.

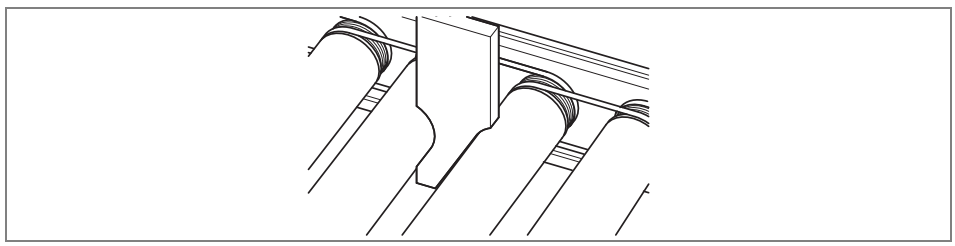
To prevent bending forces on conical RollerDrives, an angular compensation on the motor end is needed.

Mounting tool

For mounting the PolyVee belt, you may want to build a mounting tool as shown in the figure below.



- Place the mounting tool between two rollers to reduce the gap between the adjacent rollers.

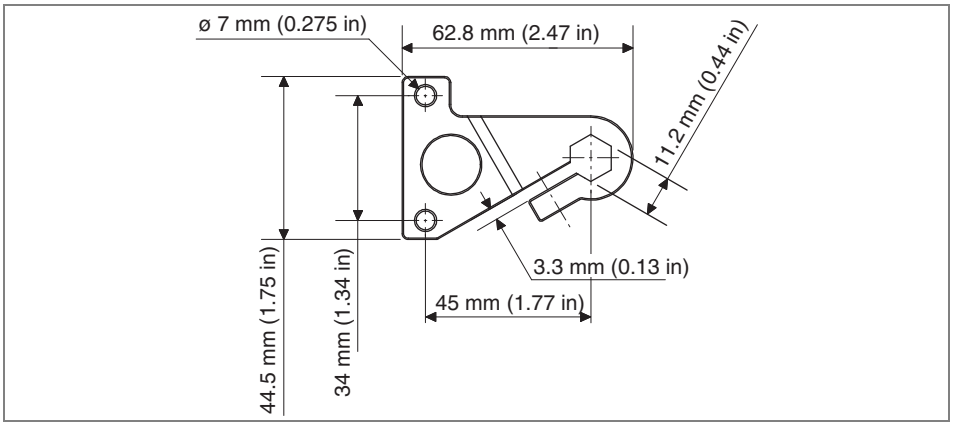


Dimensions of the mounting tool depend on the roller pitch and the roller tube diameter.

Anti-spin bracket

The following torque lock must be employed when using the unthreaded hexagonal shaft on the motor side.

Dimensions of the anti-spin bracket (flat up version)

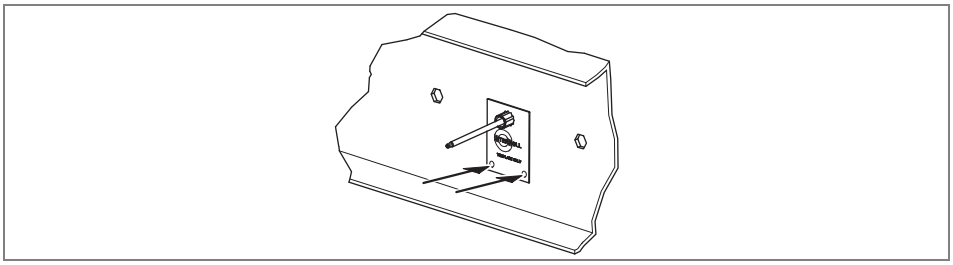


Bill of material of the anti-spin bracket

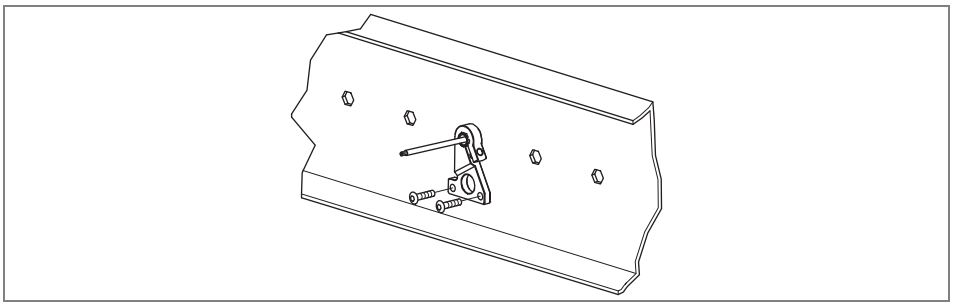
No.	Description	Quantity
1	Anti-spin bracket	1
2	Template	1
3	1/8" Allen key	1
4	Button head screw	1
5	Serrated flange hex cap screw	2
6	Hex tooth washer nut	2

Mounting the anti-spin bracket

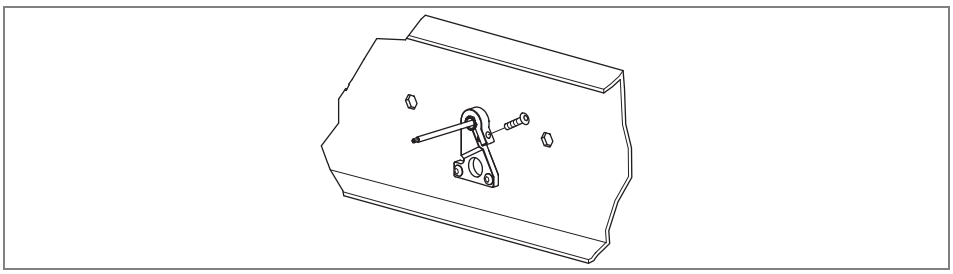
- Ensure that the power of the motor control board is switched off and that it cannot be switched on accidentally.
- If connected, disconnect the motor leads from the motor control board.
- Slide the template over the motor leads and onto the hex shaft.
- Use the template to mark the center of the mounting holes.



- Remove the template from the hex shaft and the motor leads.
- Drill two ø 7 mm (0.275 in) mounting holes at the marked spots and remove burrs from the rear side of the holes.
- Slide the anti-spin bracket with the flat side facing the conveyor frame over the motor leads and onto the hex shaft.
- Put two serrated flange hex cap screws in the bottom holes of the anti-spin bracket and tighten them with the hex tooth washer nuts.



➢ Install the button head screw in the upper hole of the anti-spin bracket to secure the shaft to the anti-spin bracket.



Electrical installation

➢ If you use the recommended DriveControl (*see "DriveControls for the RollerDrive EC1xx", page 11*), connect the motor plug to the DriveControl.
➢ If you do not use the DriveControl, connect your control to the pins of the motor plug (for the pin definition *see "Motor plug", page 11*)

Initial startup and operation

Initial startup

Inspections before initial startup

- Ensure that no objects are in contact with rotating or moving parts.
- Ensure that all bolts are tightened according to the specifications.
- Ensure that no additional dangerous areas arise due to interfaces with other components.
- Ensure that the wiring is in accordance with specifications and legal guidelines.
- Check all protection devices.
- Ensure that no bystanders are in dangerous areas around the conveyor.

For information about startup, see the manual for the DriveControl or your control.

Operation

CAUTION

Rotating parts and accidental start-up
Risk of pinched fingers

- Do not insert fingers between the RollerDrive and the round belt, PolyVee belt or roller chain.
- Do not remove the protection device.
- Keep fingers, hair and loose clothing away from the RollerDrive.

NOTICE

Damage to the motor or the control due to induction

- Do not push items along the roller conveyor by hand.
- Do not spin the RollerDrive manually.

Inspections before every startup

- Check the RollerDrive for visible damage.
- Check all protection devices.
- Ensure that no bystanders are in dangerous areas around the conveyor.
- Clearly specify and monitor the way goods are placed on the conveyor.
- Make sure that the RollerDrive is not blocked.

Ambient conditions during operation *see "Technical specifications", page 9*

Procedure in case of accident or malfunction

- Stop the conveyor at once and ensure that it cannot be started accidentally.
- In case of an accident: Provide first aid and call for emergency assistance.
- Inform responsible persons.
- Have the malfunction repaired by qualified persons.
- Start the conveyor only after this has been approved by qualified persons.

Maintenance and cleaning

Warnings concerning maintenance and cleaning

⚠ CAUTION

Risk of injury due to improper handling or accidental motor starts

- Maintenance work and cleaning may only be executed by qualified and authorized persons.
- Only perform maintenance work after switching off the power. Ensure that the RollerDrive cannot be turned on accidentally.
- Set up signs indicating maintenance work.

Maintenance

Checking the RollerDrive

If the RollerDrive is not secured as specified in the installation instructions (*see "Assembly", page 17*), it may rotate in the hole in the conveyor frame. This will result in the roller leads becoming twisted and eventually severed.

- Monthly check the RollerDrive for visible damage.
- Annually ensure that the roller shaft is secured properly in the conveyor frame.

Replacing a RollerDrive

If a RollerDrive is damaged or broken down, it has to be replaced.

- Install a new RollerDrive (*see "Abandonment", page 27* and *see "RollerDrive installation", page 19*).

Cleaning

Increased surface friction reduces the roller speed since more power is used to overcome the resistance. Therefore, in a dirty environment, periodic cleaning will ensure good contact with the goods and reduce friction.

- Remove foreign materials and dirt with a simple cleaning brush (not a wire brush) by brushing gently.
- Remove smaller amounts of dirt with a damp cloth. When doing this, make sure that wetting of the RollerDrive is no more than slightly damp.
- Do not use sharp-edged tools to clean the roller.

Troubleshooting

Troubleshooting

⚠ CAUTION

Risk of injuries due to incorrect handling

- Troubleshooting may only be done by qualified and authorized persons.
- Only perform troubleshooting after switching off the power.
- Ensure that the RollerDrive cannot be turned on accidentally.

Symptom	Possible cause	Help
RollerDrive is not operating	No power supply	Check 24 VDC power supply at the DriveControl.
	Plugs not connected properly	Check cable connection.
RollerDrive is rotating in the wrong direction.	Wrong direction settings	Change setting of direction switch on DriveControl.
RollerDrive is rotating at the wrong speed.	Wrong speed settings	Change setting of potentiometer on DriveControl.
Abnormal noise coming out of the RollerDrive	Motor or gearbox is damaged	Replace the RollerDrive.
Interrupted RollerDrive operation	Damaged motor cable	Check motor cable for damage. If the motor cable is damaged, replace the RollerDrive.

Abandonment and disposal

Abandonment

⚠ CAUTION

Risk of injury due to improper handling

- ➢ Abandonment may only be executed by qualified and authorized persons.
- ➢ Only abandon the RollerDrive after switching off the power. Ensure that the RollerDrive cannot be turned on accidentally.

- ➢ Disconnect the motor cable from the control.
- ➢ Unscrew the outer nut at the threaded motor shaft.
- ➢ If the RollerDrive has a spring-loaded idler shaft, push the idler shaft inwards.
- ➢ If the RollerDrive has a FTM8 idler shaft, unscrew the bolt at the idler shaft.
- ➢ Extract the RollerDrive from the conveyor frame.

Disposal

The operator is responsible for the proper disposal of the RollerDrive. In doing so, industry-specific and local provisions must be observed for the disposal of the RollerDrive and its packaging.

Appendix

Accessories

Belt

Part	Description
Toothed belt	• Gates Poly-Chain GT or similar: pitch 8 mm (0.31 in) • Toothed belt width: 11.2 mm (11.18 mm) • Hub with 18 teeth
Round belt	• Belts of 4 mm (0.16 in) and max. 5 mm (0.20 in) diameter
PolyVee belt	• Drive head with 9 grooves for flexible V-ribbed belts • PJ form, ISO 9981, DIN 7867 • pitch 2.34 mm (2.29 mm) • Belts with a max. of 4 ribs

DriveControls

Part	Description	Part #
DC-EC100	Motor control card (without ZPA functionality)	8996
HC-EC100	HybridControl with ZPA and motor control on one board, but can be used separately	9000
HC-EC100 Full	HybridControl with ZPA, motor control and digital I/O handshake	9001
HC-EC110	HybridControl with ZPA and motor control on one board, but can be used separately	9004

Anti-spin bracket

Part	Description	Part #
Anti-spin bracket flat up	Bottom and top of hex are flat	N582
Anti-spin bracket point up	Bottom and top of hex are pointed	N583

Installation Declaration

in accordance with the EC Machinery Directive 2006/42/EC, Appendix II B

The manufacturer:

Interroll Engineering GmbH
Hoeferhof 16
D - 42929 Wermelskirchen
Germany

hereby declares with sole responsibility that the product range

- RollerDrive EC1xx

is not a ready-to-use machine as defined by the EC Machinery Directive and, therefore, does not fully comply with the requirements of this directive. Initial start-up of these conveyor modules is not permitted until conformity of the entire machine/system in which they are installed has been declared via the EC Machinery Directive.

The health and safety requirements as stated in Appendix I have been applied. The special technical documents as stated in Appendix VII B have been compiled and will be sent to the responsible authority if necessary.

Person authorized to compile the technical documents: Georg Malina, Interroll Engineering GmbH, Hoeferhof 16, D - 42929 Wermelskirchen

Applied EC directives:

- Machinery Directive 98/37/EC with the amendment 98/79/EC
- EMC Directive 2004/108/EC
- RoHS Directive 2002/95/EC

Applied harmonized standards:

- EN ISO 12100 Parts 1 and 2 "Safety of machinery - Basic concepts, general principles for design" - Part 1: "Basic terminology, methodology" - Part 2: "Technical principles"

Wermelskirchen, 31st March 2010

Armin Lindholm

(Managing Director)

(This declaration can be obtained at www.interroll.com, if needed.)

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